REMARKS

Applicant cancels claim 2 and adds new claims 20-24; therefore claims 1 and 3-24 are now pending in the application.

The Examiner rejects:

- claim 19 under 35 U.S.C. §112, second paragraph, as being indefinite;
- claims 1 and 19 under 35 U.S.C. §102(e) as being anticipated by Yanagita et al. (Yanagita);
- claims 2 and 6 under 35 U.S.C. §103(a) as being unpatentable over Yanagita in view of Van Havenbergh et al. (Van Havenbergh);
- claims 3 and 7 under 35 U.S.C. §103(a) as being unpatentable over Yanagita in view of Tsunoda et al. (Tsunoda) and Beguin;
- claims 4 and 8 under 35 U.S.C. §103(a) as being unpatentable over Yanagita in view of Van Havenbergh and further in view of Tsunoda and Beguin;
- claim 5 under 35 U.S.C. §103(a) as being unpatentable over Yanagita;
- claim 9 under 35 U.S.C. §103(a) as being unpatentable over Yanagita in view of O'Brien;
- claims 10 and 14 under 35 U.S.C. §103(a) as being unpatentable over Yanagita in view of Van Havenbergh and further in view of O'Brien;
- claims 11 and 15 under 35 U.S.C. §103(a) as being unpatentable over Yanagita in view of Tsunoda and Beguin and further in view of O'Brien;
- claims 12 and 16 under 35 U.S.C. §103(a) as being unpatentable over Yanagita in view of Van Havenbergh, Tsunoda and Beguin, and further in view of O'Brien;
- claim 13 under 35 U.S.C. §103(a) as being unpatentable over Yanagita in view of O'Brien; and
- claims 17 and 18 under 35 U.S.C. §103(a) as being unpatentable over Yanagita in view of O'Brien.

Also, the Examiner objects to the specification and claims 9-16 due to minor informalities.

Finally, the Examiner notes that in order for the references listed in Applicant's specification to be considered, a list of these references must be submitted in a separate Form PTO 1449 with an IDS.

Formal Matters

With regard to the Examiner's objections to the specification and claims 9-16, Applicant amends the specification and claims 9-16 as suggested by the Examiner (see Office Action, paragraphs 2, 3 and 5).

With regard to the prior art references listed in Applicant's specification, as requested by the Examiner, Applicant submits herewith Form PTO-1449 listing these references. The Examiner is respectfully requested to return the signed Form PTO-1449 indicating that these references have been considered.

35 U.S.C. §112, Second Paragraph, Rejection

Applicant respectfully traverses this rejection, without amending claim 18, as follows. As explained in Applicant's specification at page 13, line 4 through page 14, line 2, and shown in Fig. 1, "angle α formed by the direction in which the stimulable phosphor-coating solution is discharged and the second plane is preferably 5 to 60°, and more preferably 5 to 30°" (page 13, lines 19-21). While 0° is within the range illustrated in Applicant's Fig. 1, as explained in Applicant's specification an angle of less that 5° is undesirable (see page 13, line 22 through page 14, line 2). Therefore, Applicant's claim 18 is fully consistent with Applicant's disclosure, and particularly defines the claimed subject matter so as to enable one of ordinary skill in the art to practice this embodiment of Applicant's invention.

Prior Art Rejections

With regard to claims 1, and 19, Yanagita (the Examiner's primary reference) discloses an example of a radiation image conversion panel formed by coating a stimulable phosphor layer onto a support "so as to have 250 μm of a dry thickness of the stimulable phosphor layer" (see col. 17, lines 32-51).

In contrast, as explained in Applicant's specification, film thickness "from 300 to 800μm, as claimed in Applicant's independent claims 1 and 19, "is particularly preferable" (see, for example, Applicant's specification at p. 11). Thus, Applicant's independent claims 1 and 19 are not anticipated by, and would not have been obvious from, Yanagita. Accordinlgy, the Examiner's prior art rejections of claim 1 and 19, and thereby, all of the rejections of the dependent claims 3-18 should now be withdrawn.

Furthermore, with regard to the claims 9-16, the Examiner acknowledges that Yanagita does not disclose the specific relationship between a gap A (which is the distance from the tip of the coater to the support) and thickness B (which is the thickness of the stimulable phosphor-coating solution). However, the Examiner takes the position that it is well know in the art to adjust the gap between the coater and the support to obtain a high quality coating, and relies on O'Brien, which discloses a method for applying a coating fluid to a moving web wherein the drawdown die has a beveled drawdown surface and "the position of the first edge 60 of the beveled drawdown surface 58 ... must also be adjusted by shifting the drawdown die along the slot axis 32" (col. 4, lines 51-60). Contrary to the Examiner's analysis, O'Brien's distance "+/-d" does not represent the distance from the tip of the drawdown die 24 (i.e., a coater) to the web

12 (i.e., a support), instead distance "d" simply represents the amount by which drawdown die 24 must be adjusted by moving the drawdown die along the slot axis 32, as clearly shown in O'Brien's Fig. 3. Therefore, O'Brien does not disclose, teach or suggest the specific relationship between gap A and thickness B as defined in Applicant's claims 9-16. Accordingly, Applicant's claims 9-16 would not have been obvious from any reasonable combination of the prior art references cited by the Examiner at least for this additional reason.

Applicant adds new claims as follows:

- Claims 20 and 21 directed to the embodiments as described in Applicant's specification, for example, on page 32, line 18 through page 38, line 13;
- Claim 22 directed to a "particularly preferable" relational expression between gap A and thickness B (see Applicant's specification, page 12, lines 12-15); and
- Claims 23 and 24 which parallel claims 9 and 22, respectively, rewritten in independent form including all of the limitations of the original claim 1.

With regard to new claims 20 and 21, Applicant respectfully submits that none of the cited references describes or suggests that the coating uniformity with a very low speed of movement of a support (0.5 to 5m/min) can be achieved by executing the method using an extrusion coater as claimed in the present invention.

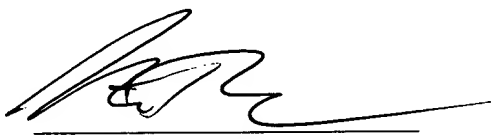
In summary, none of the cited references disclose features (namely, compositions of coating solution, thickness of coated film, method of coating (extrusion), speed of movement of a support, viscosity of the coating solution, and dimensions of A and B) that satisfy the scope of

the present invention. The description of the extrusion coating in Yanagita is no more than a general description and does not take into account the effect of the accuracy of film thickness achieved by the present invention. In fact, Yanagita uses knife coater (also used in the Comparative Examples of the present invention) in the Examples therein.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,



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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

Page 33, delete the first full paragraph and insert therefor:

The stimulable phosphhor obtained in (1)	100 g
Polyurethane (binder)	24.0 g
(15% MEK solution of [Pandex] PANDEX T5265	
(trade name) manufactured by Dainippon	
Ink & Chemicals, Inc.)	
Bisphenol A type epozy resin	1.0 g
(yellowing prevention agent)	
(trade name: [Epicoat] EPICOAT 1004, manufactured	
by Yuka Shell Epoxy Co., Ltd.)	
Polyisocyanate (hardener)	4.0 g
(trade name: [Coronate] CORONATE HX, manufactured	
by Nippon Polyurethane Co., Ltd.)	

Page 37, delete the first full paragraph and insert therefor:

After the compressing processing, a transparent film (thickness: 10 μm) of polyethylene terephthalate, which was coated with a polyester adhesive (trade name: [Byron] BYRON 300), was bonded to the surface of the stimulable phosphor sheet formed above, to form a transparent protective layer.

IN THE CLAIMS:

The claims are amended as follows:

1. (Amended) A method of manufacturing a radiation image conversion panel in which a stimulable phosphor-containing coating solution, which contains at least a stimulable phosphor and a binder, is applied to a support by use of an extrusion coater such that the film thickness of a coated film of the stimulable phosphor-containing coating solution is [100 μm or more] in the range of from 300 to 800 μm.

9. (Amended) A method of manufacturing a radiation image conversion panel according to one of claim 1, wherein the stimulable phosphor-containing coating solution is applied such that a gap A (μm) between a discharge opening at the tip of the extrusion coater and the support, and a film thickness B (μm) of the coated film of the stimulable phosphor-containing coating solution satisfy the following relational expression[.]

$$0.75 \times B + 100 \leq A \leq 1.10 \times B + 130.$$

10. (Amended) A method of manufacturing a radiation image conversion panel according to one of claim 2, wherein the stimulable phosphor-containing coating solution is applied such that a gap A (μm) between a discharge opening at the tip of the extrusion coater and the support, and a film thickness B (μm) of the coated film of the stimulable phosphor-containing coating solution satisfy the following relational expression[.]

$$0.75 \times B + 100 \leq A \leq 1.10 \times B + 130.$$

11. (Amended) A method of manufacturing a radiation image conversion panel according to one of claim 3, wherein the stimulable phosphor-containing coating solution is

applied such that a gap A (μm) between a discharge opening at the tip of the extrusion coater and the support, and a film thickness B (μm) of the coated film of the stimulable phosphor-containing coating solution satisfy the following relational expression[.]

$$0.75 \times B + 100 \leq A \leq 1.10 \times B + 130.$$

12. (Amended) A method of manufacturing a radiation image conversion panel according to one of claim 4, wherein the stimulable phosphor-containing coating solution is applied such that a gap A (μm) between a discharge opening at the tip of the extrusion coater and the support, and a film thickness B (μm) of the coated film of the stimulable phosphor-containing coating solution satisfy the following relational expression[.]

$$0.75 \times B + 100 \leq A \leq 1.10 \times B + 130.$$

13. (Amended) A method of manufacturing a radiation image conversion panel according to one of claim 5, wherein the stimulable phosphor-containing coating solution is applied such that a gap A (μm) between a discharge opening at the tip of the extrusion coater and the support, and a film thickness B (μm) of the coated film of the stimulable phosphor-containing coating solution satisfy the following relational expression[.]

$$0.75 \times B + 100 \leq A \leq 1.10 \times B + 130.$$

14. (Amended) A method of manufacturing a radiation image conversion panel according to one of claim 6, wherein the stimulable phosphor-containing coating solution is applied such that a gap A (μm) between a discharge opening at the tip of the extrusion coater and the support, and a film thickness B (μm) of the coated film of the stimulable phosphor-containing coating solution satisfy the following relational expression[.]

$$0.75 \times B + 100 \leq A \leq 1.10 \times B + 130.$$

15. (Amended) A method of manufacturing a radiation image conversion panel according to one of claim 7, wherein the stimulable phosphor-containing coating solution is applied such that a gap A (μm) between a discharge opening at the tip of the extrusion coater and the support, and a film thickness B (μm) of the coated film of the stimulable phosphor-containing coating solution satisfy the following relational expression[.]

$$0.75 \times B + 100 \leq A \leq 1.10 \times B + 130.$$

16. (Amended) A method of manufacturing a radiation image conversion panel according to one of claim 8, wherein the stimulable phosphor-containing coating solution is applied such that a gap A (μm) between a discharge opening at the tip of the extrusion coater and the support, and a film thickness B (μm) of the coated film of the stimulable phosphor-containing coating solution satisfy the following relational expression[.]

$$0.75 \times B + 100 \leq A \leq 1.10 \times B + 130.$$

19. (Amended) A radiation image conversion panel obtained by the method of manufacturing a radiation image conversion panel in which a stimulable phosphor-containing coating solution, which contains at least a stimulable phosphor and a binder, is applied to a support by use of an extrusion coater such that the film thickness of a coated film of the stimulable phosphor-containing coating solution is [100 μm or more] in the range of from 300 to 800 μm.